



PUBLIC NOTICE

Federal Communications Commission
445 12th St., S.W.
Washington, D.C. 20554

News Media Information 202 / 418-0500
Fax-On-Demand 202 / 418-2830
TTY 202 / 418-2555
Internet: <http://www.fcc.gov>
<ftp.fcc.gov>

DA 02-407
February 25, 2002

THE FCC'S ADVISORY COMMITTEE FOR THE 2003 WORLD RADIOCOMMUNICATION CONFERENCE APPROVES REVISED PRELIMINARY VIEW

On February 6, 2002, the World Radiocommunication Conference Advisory Committee (WRC-03 Advisory Committee) adopted a further recommendation to the Commission on issues that the 2003 World Radiocommunication Conference (WRC-03) will address. The WRC-03 Advisory Committee was established by the Commission in January 2001 to assist it in the development of views and proposals for WRC-03. To that end, the WRC-03 Advisory Committee has forwarded the recommendations it has developed since the beginning of 2001 to the Commission for consideration. We have attached to this Public Notice the WRC-03 Advisory Committee's most recent recommendation, which is in the form of a revised preliminary view for WRC-03. We appreciate the substantial amount of work that the WRC-03 Advisory Committee has done over the past year in developing its recommendations. This Public Notice requests comments on its latest recommendation.

Based upon our initial review of the recommendation forwarded to the Commission, the International Bureau, in coordination with other Commission Bureaus and Offices, tentatively concludes that we can generally support the revised preliminary view recommended by the WRC-03 Advisory Committee. We seek comment on this recommendation of the WRC-03 Advisory Committee and on our tentative conclusion.

In addition, the National Telecommunications and Information Administration (NTIA) has submitted letters to the Commission containing preliminary views and draft proposals that have been developed or revised by the Executive Branch Agencies. We also request comment on these preliminary views and draft proposals, which are attached hereto as well.

The FCC will consider the preliminary views, draft proposals, and comments provided in its consultations with the U.S. Department of State and NTIA in the development of U.S. proposals to WRC-03. Once agreed by these agencies of the U.S. Government, the preliminary views and proposals will be used by U.S. delegations at bilateral, regional and international meetings. The preliminary views and draft proposals attached to this Public Notice may evolve as we approach WRC-03 and during the course of interagency discussions. Therefore, they do not constitute the final national position on these issues.

The complete texts of these preliminary views and draft proposals are also available in the FCC's Information Reference Center, Room CY-A257, 445 12th Street, SW, Washington, DC 20554 and by accessing the FCC's WRC-03 world wide web site at <http://www.fcc.gov/wrc-03>. To comment on the proposals, please submit an original and one copy of your comments to the Office of the Secretary, Federal Communications Commission, 445 12th Street, SW, Washington, DC 20554 and provide a courtesy copy to Alex Roytblat, FCC WRC-03 Director, Room 6-B505. When possible, these comments should also be forwarded to the Commission via the Internet at: wrc03@fcc.gov. Comments should refer to specific proposals by document number. The deadline for comments on the views and draft proposals included in this public notice is **March 15, 2002**.

I. Informal Working Group 1: IMT-2000 and Terrestrial Wireless Interactive Media

REVISED DRAFT PRELIMINARY VIEW ON WRC-03

Doc. WAC/014rev1(06.02.02)

WRC-2003 Agenda Item 1.22: to consider progress of ITU-R studies concerning future development of IMT-2000 and systems beyond IMT-2000, in accordance with Resolution 228 (WRC-2000).

ISSUE: To study spectrum requirements and potential frequency ranges suitable for the future development of IMT-2000 and systems beyond IMT-2000, and in what time frame such spectrum would be needed, as well as ongoing enhancements of IMT-2000 systems and systems beyond IMT-2000.

BACKGROUND: WRC-2000 considered issues related to IMT-2000, resulting in the identification of additional spectrum for the terrestrial component of IMT-2000 in the Radio Regulations S5.317A and S5.384A. This spectrum was identified in addition to that identified for initial IMT-2000 deployment at WARC-92 in footnote S5.388. WRC-2000 also identified existing global MSS allocations as being available for use by the satellite component of IMT-2000, in accordance with Resolution 225.

In Resolution 228 (WRC-2000), the ITU-R was invited to continue studies on overall objectives, applications and technical and operational implementation for the future development of IMT-2000 and system beyond. These requirements are to be reviewed by WRC-05/06, taking into consideration the results of ITU-R studies presented to WRC-03.

ITU-R Working Party 8F continues to work on issues relevant to WRC-03 agenda item 1.22. WP 8F will continue to develop a preliminary draft new recommendation (PDNR) on the vision and objectives for the ongoing enhancement of IMT-2000 and of systems beyond IMT-2000. The structure of the Vision PDNR has been agreed to, but the text and substance will be developed during the fifth (June 27-July 3, 2001, Stockholm), sixth (October 10-16, 2001, Tokyo) and seventh meetings (February 27-March 5, 2002, New Zealand). The Vision PDNR is expected to be approved by WP 8F at the eighth meeting (May 29-June 4, 2002, Canada), and will contain information essential for the future development of U.S. positions on agenda item 1.22. In addition, 8F is charged with developing CPM text for this agenda item. The Spectrum WG has developed a draft framework for the item, and the CPM text is scheduled to be approved by 8F at the New Zealand meeting in February 2002.

U.S. VIEW: No action is necessary except to consider the progress of ITU-R studies in response to agenda item 1.22, in order to fashion an appropriate agenda item for WRC-2006 related to spectrum and associated regulatory issues concerning the future development of IMT-2000 and systems beyond IMT-2000. No changes in the allocation table and resolutions concerning IMT-2000 should be considered under this agenda item. In light of this ongoing work at the ITU, and by other entities, the U.S. view will be developed further when results are available from the ITU and other entities. (January 2002)

II. Draft Proposals Approved by the National Telecommunications and Information Administration (NTIA)

DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

Doc. WAC/093(06.02.02)

(NTIA revision of the draft proposal from the WRC-03 Advisory Committee)

Agenda Item 1.11: to consider possible extension of the allocation to the mobile-satellite service (Earth-to-space) on a secondary basis in the band 14-14.5 GHz to permit operation of the aeronautical mobile-satellite service as stipulated in Resolution **216 (Rev.WRC-2000)**.

Background Information: Aeronautical Mobile-Satellite Service (AMSS) systems in the 14 - 14.5 GHz band are proposed to meet the growing demand for two-way broadband communication, including data transmission, for aircraft passengers and crew. In Resolution 216, WRC-2000 resolved that WRC-03 should examine the possibility of broadening the secondary allocation to the mobile-satellite service (Earth-to-space), except aeronautical mobile-satellite, in the 14-14.5 GHz band to include aeronautical use, should the ITU-R studies demonstrate that such a secondary service can be operated without causing interference to the primary services. It further invited the ITU-R to complete, in time for WRC-03, the technical and operational studies on the feasibility of the sharing of the band 14-14.5 GHz between the fixed-satellite (Earth-to-space), radionavigation, fixed and mobile services, except aeronautical mobile, and the aeronautical mobile-satellite service, with the latter service on a secondary basis.

The ITU-R studies have concluded that appropriately designed AMSS systems can operate on a secondary basis in the band 14-14.5 GHz without causing harmful interference to services having primary allocations in the band. Additional studies have shown the feasibility of appropriately designed and operated AMSS systems sharing with the radio astronomy service and the space research service employing secondary allocations. A provision is added to the AMSS allocation to ensure protection for these secondary uses. The ITU-R has ~~also~~ developed [Draft New] Recommendation ITU-R M.[AMSS] to provide administrations a common technical basis for implementing AMSS systems.

On the basis of the conclusions of the studies under Resolution 216, the secondary MSS allocation in the 14-14.5 GHz band can now be extended to include aeronautical use. No other regulatory changes are required and Resolution 216 may be suppressed. To encourage the timely development of AMSS in this band, it is proposed that the change of allocation should come into force upon the conclusion of WRC-03.

Proposal:

USA/ / 1
MOD

14-14.5 GHz

Allocation to services		
Region 1	Region 2	Region 3
14-14.25	FIXED-SATELLITE (Earth-to-space) S5.484A S5.506 RADIONAVIGATION S5.504 Mobile-satellite (Earth-to-space) ADD S5.XXX except aeronautical mobile satellite Space research S5.505	
14.25-14.3	FIXED-SATELLITE (Earth-to-space) S5.484A S5.506 RADIONAVIGATION S5.504 Mobile-satellite (Earth-to-space) ADD S5.XXX except aeronautical mobile satellite Space research S5.505 S5.508 S5.509	
14.3-14.4 FIXED FIXED-SATELLITE (Earth-to-space) S5.484A S5.506 MOBILE except aeronautical mobile Mobile-satellite (Earth-to- space) ADD 5.XXX except aeronautical mobile satellite Radionavigation-satellite	14.3-14.4 FIXED-SATELLITE (Earth-to-space) S5.484A S5.506 Mobile-satellite (Earth-to-space) ADD 5.XXX except aeronautical mobile satellite Radionavigation-satellite	14.3-14.4 FIXED FIXED-SATELLITE (Earth-to-space) S5.484A S5.506 MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) ADD 5.XXX except aeronautical mobile satellite Radionavigation-satellite
14.4-14.47	FIXED FIXED-SATELLITE (Earth-to-space) S5.484A S5.506 MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) ADD 5.XXX except aeronautical mobile satellite Space research (space-to-Earth)	
14.47-14.5	FIXED FIXED-SATELLITE (Earth-to-space) S5.484A S5.506 MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) ADD 5.XXX except aeronautical mobile satellite Radio astronomy S5.149	

Reasons: The Allocation Table is modified to reflect the addition of a new allocation for AMSS.

USA/ / 2
ADD

5.XXX In the band 14-14.5 GHz, aircraft earth stations shall not cause harmful interference to stations of the radio astronomy and the space research services allocated in portions of this band.

Reasons: On the basis of ITU-R studies, appropriately designed and controlled AMSS systems can operate on a secondary basis in the band 14-14.5 GHz without causing harmful interference to the primary services in the band and radio astronomy and space research services operating on a secondary basis in the band. Footnote S5.XXX is added to the AMSS allocation to ensure protection for these secondary uses.

NOTE: A separate proposal will be needed to give immediate effect to this new secondary allocation upon the conclusion of the conference. This is normally achieved by a resolution developed at the conference calling for provisional application (such as Resolution 54 (WRC-97)) together with a reference in Article S59, Entry into Force and Provisional Application of Radio Regulations (such as S59.6).

USA/ / 3
SUP

RESOLUTION 216 (Rev.WRC-2000)

Reasons: Work is complete.

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Doc. WAC/094(06.02.02)/1.15

(NTIA revision of the draft proposal from the WRC-03 Advisory Committee)

Proposal for Resolution 605

Agenda Item 1.15: to review the results of studies concerning the radionavigation-satellite service in accordance with Resolutions **604 (WRC-2000)**, **605 (WRC-2000)** and **606 (WRC-2000)**;

Background Information: WRC-2000 introduced new allocations in the band 1 164-1 215 MHz for use by the radionavigation-satellite service (RNSS) (space-to-space) and (space-to-Earth) with a provisional aggregate pfd limit of -115 dB (W/m²) in any 1 MHz band produced at the Earth's surface by all space stations within all RNSS systems and for all angles of arrival. It also stated in **S5.328A** of the Radio Regulations that the provisions of Resolution **605 (WRC-2000)** apply. There was extensive discussion at WRC-2000 with regard to the need for a pfd limit and the value needed to protect aeronautical radionavigation service (ARNS) systems (including DME). Resolution **605** requested the ITU-R to study the technical, operational, and regulatory aspects of compatibility between RNSS and ARNS in the band 9 60-1 215 MHz, including an assessment of the need for an aggregate pfd limit. If such a need exists, the ITU-R was requested to revise, if necessary the provisional pfd limit given in **S5.328A** concerning the operation of RNSS (space-to-Earth) systems in the frequency band 1 164 – 1 215 MHz.

The ITU-R has determined that ARNS systems require protection from the aggregate of emissions from RNSS (space-to-Earth) systems and networks that collectively exceed -116.8 dB (W/m²) in any 1 MHz produced at the Earth's surface. There is, however, no reliable way for the Bureau to validate compliance by all RNSS systems with an aggregate pfd limit. Studies within the ITU-R reveal that there are a number of profound technical and regulatory reasons why establishment of the regulatory device of a permanent aggregate pfd limit on RNSS emissions in the 1 164-1 215 MHz band would fail to provide the protection to ARNS systems that is required and intended under **No. S5.328A** of the Radio Regulations, and would significantly and unduly constrain the development and implementation of RNSS systems in this band.

Addressing Resolution **605**, the U.S. has a strong need for both use of the RNSS spectrum and the continued operation of ARNS systems in the 1 164-1 215 MHz band. Furthermore, the U.S. is committed to protecting current and future ARNS systems operating in the same band as RNSS from harmful interference. This protection needs to be provided without unnecessarily delaying or hindering the implementation and provision of RNSS (space-to-Earth) services.

Based on its studies and studies within the ITU, the U.S. has identified a preferred regulatory approach for achieving the meaningful protection of the ARNS without unduly constraining RNSS development and operation. This approach is based on elements of Method B and Method C of the CPM report. It mandates the provision of aggregate interference protection at the level identified in ITU-R studies, but commits enforcement of the requirement to those administrations that actually operate and actually intend to operate RNSS systems. The approach manages the total amount of interference caused by these systems through the collaborative agreement on the part of administrations proposing and operating the RNSS systems. In this manner, there is no additional regulatory burden for the Bureau (which will not be tasked to validate compliance with the protection criterion); there will be a need for

coordination among RNSS operators (both formal in an Article **S9** sense and informal thereafter pursuant to the provisions of the proposed new resolution and associated provisions in the Radio Regulations); and neither ARNS systems nor RNSS operators are faced with artificial or insufficient regulations that could leave them exposed to interference or forced to make unnecessary adjustments that inhibit the efficient use of the orbital/spectrum resource. The approach also takes account of the RRB concern about having multiple inconsistent regulations applicable to the same band.

Proposals:

USA/ /1
(MOD)

960-1 215 MHz

Allocation to services		
Region 1	Region 2	Region 3
960-1 215	AERONAUTICAL RADIONAVIGATION S5.328 MOD S5.328A	

Reasons: Consequential change.

USA/ /2
NOC

S5.328

Reasons: The current text is adequate.

USA/ /3
MOD

S5.328A *Additional allocation:* the band 1 164-1 215 MHz is also allocated to the radionavigation-satellite service (space-to-Earth) (space-to-space) on a primary basis. ~~The aggregate power flux density produced by all the space stations of all radionavigation satellite systems at the Earth's surface shall not exceed the provisional value of 115 dB(W/m²) in any 1 MHz band for all angles of arrival. Stations in the radionavigation-satellite service in the band 1 164-1 215 MHz shall not cause harmful interference to, nor claim protection from, stations of the aeronautical radionavigation service operate in accordance with the provisions of Resolution **RNSS (WRC-03) 605 (WRC-2000)** and shall not claim protection from stations in the aeronautical-radionavigation service. No. **5.43A** does not apply. The provisions of Nos. **S21.18** apply.~~

Reasons: The suppression of the second and modification of the third sentence reflect the incorporation into new Draft Resolution **RNSS (WRC-03)** and associated Radio Regulations (see below) of the mechanisms for ensuring the protection of ARNS against harmful interference from RNSS (space-to-Earth) systems.

Discussions between RNSS administrations, both during formal coordination and after, are critical to the success of the regulatory determination to commit to administrations the obligation to ensure that the aggregate protection criterion of the ARNS is satisfied. Thus, the new provision in new **No. S21.18** (see below) is specifically referenced.

USA/ /4

ADD

Section VI – Protection of aeronautical radionavigation service systems from aggregate emissions of space stations of radionavigation-satellite service systems in the 1 164-1 215 MHz band

S21.18 § 7 Administrations operating or planning to operate radionavigation-satellite service systems or networks in the 1 164-1 215 MHz frequency band, for which complete coordination or notification information, as appropriate, was received by the Bureau after 2 June 2000, shall, in accordance with *resolves* 2 of Resolution **RNSS (WRC-03)**, take all necessary steps to ensure that the actual aggregate interference into aeronautical radionavigation service systems caused by RNSS systems or networks operating co-frequency in these frequency bands does not exceed the aggregate power levels shown in *resolves* 1 Resolution **RNSS (WRC-03)**.

Reasons: Article **S21** of the Radio Regulations addresses sharing between terrestrial and space services in frequency bands above 1 GHz. Placement of this provision in a new Section **VI** of Article **S21** brings into the Radio Regulations the critical elements from new Resolution **RNSS (WRC-03)** (see proposal below) that make mandatory the collective obligation of administrations operating RNSS systems at 1 164-1 215 MHz to ensure that the aggregate protection criterion from *resolves* 1 of Resolution **RNSS** is not exceeded, as well as the requirement to reduce emissions if administrations operating ARNS systems identify excess emission levels.

USA/ /5

ADD

RESOLUTION RNSS (WRC-2003)

Protection of aeronautical radionavigation service systems from the aggregate power flux-density produced by radionavigation-satellite service networks and systems in the 1 164-1 215 MHz frequency band

The World Radiocommunication Conference (Caracas, 2003),

considering

a) that the band 960-1 215 MHz is allocated on a primary basis to the aeronautical radionavigation service (ARNS) in all Regions;

- b) that the band 1 164-1 215 MHz is also allocated on a primary basis to the radionavigation-satellite service (RNSS), subject to the condition in **No. S5.328A** that operation of RNSS systems shall be in accordance with this Resolution;
- c) that protection of the ARNS from harmful interference can be achieved if the value of the aggregate power flux-density produced by all the space stations of all RNSS (space-to-Earth) systems in the band referred to in *considering* a) does not exceed the level of $[-116.6]$ dB(W/m²) in any 1 MHz band for all angles of arrival;
- d) that WRC-2000 adopted Resolution **605 (WRC-2000)** to provide for implementation of a provisional aggregate power flux-density limit during the period between WRC-2000 and WRC-2003, and requested ITU-R studies on the need for an aggregate pfd limit, and revision, if necessary, of the provisional pfd limit given in **No. S5.328A**;
- e) that only a limited number of RNSS systems are expected to be deployed in the 1 164-1 215 MHz band, and only a few of these systems at most would have overlapping frequencies;
- f) that ARNS systems can be protected without placing undue constraints on the development and operation of RNSS systems in this band;
- g) that to achieve the objectives in *considering* f), administrations operating RNSS systems will need to agree cooperatively to achieve the level of protection for ARNS systems that is stated in *considering* c);
- h) that it may be appropriate for representatives of administrations operating ARNS systems to be involved in determinations made pursuant to *considering* g);

resolves

1 that, in order to protect ARNS systems, administrations shall ensure, without validation by the Bureau pursuant either to **No. S11.31** or **S9.35** of the Radio Regulations, that the aggregate pfd level produced by all space stations of all radionavigation-satellite service systems at the Earth's surface does not exceed the level, $[-116.6]$ dB(W/m²) in any 1 MHz band for all angles of arrival;

2 that administrations operating or planning to operate in the 1 164-1 215 MHz frequency band RNSS systems or networks for which complete coordination or notification information, as appropriate, was received by BR after 2 June 2000, in collaboration, shall take all necessary steps, including by means of appropriate modifications to their systems or networks, to ensure that the aggregate interference into ARNS systems caused by such RNSS systems or networks operating co-frequency in these frequency bands does not exceed the level of the aggregate protection criterion given in *resolves* 1 above;

3 that administrations, in carrying out their obligations under *resolves* 1 and 2 above, shall take into account only those RNSS systems with frequency assignments in the band 1 164-1 215 MHz that have met all of the milestones listed in the Annex to this Resolution;

4 that administrations shall communicate to the Bureau the results of any aggregate sharing determinations made in application of *resolves* 2 above, without regard to whether such

determinations result in any modifications to the published characteristics of their respective systems or networks;

5 that administrations operating ARNS systems in the 1 164-1 215 MHz band should participate, as appropriate, in discussions and determinations relating to the resolves above,

invites the ITU-R

to continue to develop, as a matter of urgency a suitable methodology for calculating the aggregate power flux-density produced by all RNSS systems operating or planning to operate co-frequency in the 1 164-1 215 MHz frequency band into ARNS systems, which may be used by administrations to determine whether the systems are in compliance with the aggregate power levels given in *resolves* 1 above.

ANNEX

Milestone Criteria for Application of Resolution RNSS

1. Submission of appropriate ITU Advance Publication, and Coordination or Notification documentation.
2. Entry into satellite manufacturing or procurement agreement:

The RNSS system or network operator should possess clear evidence of a binding agreement for the manufacture or procurement of its satellites. The agreement should identify the contract milestones leading to the completion of manufacture or procurement of satellites required for the service provision. The Notifying Administration is responsible for authenticating the evidence of agreement and providing such evidence to other interested administrations in furtherance of its obligations under this Resolution.

3. Entry into satellite launch agreement:

The RNSS system or network operator should possess clear evidence of a binding agreement to launch its satellites. The agreement should identify the launch date, launch site, and launch service provider. The Notifying Administration is responsible for authenticating the evidence of agreement and providing such evidence to other interested administrations in furtherance of its obligations under this Resolution.

Reasons: This resolution and annex, along with incorporating provisions in Articles **S5** (MOD **S5.328A**) and **S21** (ADD Section VI), provides the mechanism by which administrations operating or planning to operate RNSS systems, all of which also operate co-frequency ARNS systems, will undertake the responsibility for ensuring the protection of ARNS systems. The resolution recognizes that there is a need for discussions between and among administrations operating RNSS systems to ensure compliance with the obligation to protect ARNS systems, and that such discussions may involve administrations operating ARNS systems. Resolution **RNSS** thus provides a basis for managing the total aggregate interference caused to ARNS systems by real RNSS systems.

RESOLUTION 605 (WRC-2000)

Reasons: This resolution is no longer needed because of the changes made to **S5.328A**, the addition of Section **VI** to Article **S21** and the addition of Resolution **RNSS**.

DRAFT PROPOSAL FOR THE WORK OF THE CONFERENCE

Doc. WAC/094(06.02.02)/1.17

(NTIA Draft Proposal coordinated with the WRC-03 Advisory Committee)

Agenda Item 1.17: to consider upgrading the allocation to the radiolocation service in the frequency range 2 900-3 100 MHz to primary;

Background Information: Due to changes in requirements and missions of the radiolocation service, it is necessary to augment existing primary allocations in bands below 6 GHz where unique propagation properties exist. Changes in technology are driving a need for larger bandwidth in order to be able to pick smaller and less reflective radar targets out of background clutter. The radiolocation service, while recognizing the special needs of radionavigation services as noted in RR **S.4.10**, has demonstrated compatible operations with aeronautical and maritime radionavigation radars in common bands, including the 2 900-3 100 MHz band, which is now shared on a secondary basis.

ITU-R studies on maritime radionavigation radars and emissions from radiolocation radars in the band 2 900 - 3 100 MHz, illustrate compatibility between radiolocation radars and radionavigation radars operating in the 2 900 - 3 100 MHz band. These tests indicate that typical maritime navigation radars can suppress emissions from other radars, even when that interference is received with very high I/N ratios, and when the unwanted pulsed waveform is asynchronous and has a low duty cycle. These test results confirm the historical sharing experience between the two services in the 2 900-3 100 MHz band. ITU-R Draft New Report on factors that mitigate interference from radiolocation radars to maritime and aeronautical radionavigation radars in the 2 900 - 3 100 MHz band, confirms that interference from radiolocation radars to maritime and aeronautical radionavigation radars in the 2 900 - 3 100 MHz band can be mitigated.

Few aeronautical radionavigation radars use this band, and characteristics of those aeronautical radionavigation radars have not been documented within the ITU-R. However, characteristics of aeronautical radionavigation radars using the adjacent 2 700 - 2 900 MHz band have been documented in Recommendation ITU-R M.1464, and are expected to be similar to those in the 2 900 - 3 100 MHz band. Similarly, weather radars, which resemble radiolocation radars in their beam scanning, have been operated successfully in close proximity with aeronautical navigation radars in the 2 700 - 2 900 MHz band. Radionavigation radars that have operated in this band have demonstrated compatible operations with the radiolocation systems, mainly as a result of newer radar design features that mitigate received radar-to-radar interference as described in Recommendation ITU-R M.1372.

Proposal:

USA/ /10 MOD	2 900-3 100 MHz		
	Allocation to services		
	Region 1	Region 2	Region 1
	2 900-3 100 MHz	RADIONAVIGATION S5.425 S5.426 S5.427 Radiolocation <u>RADIOLOCATION_ ADD S5.XXX</u>	

Reasons: Provides worldwide primary allocation with respect to future entrants.

USA/ /11
ADD

S5.XXX The radiolocation service operating in the band 2 900 - 3 100 MHz band shall not cause harmful interference to, nor claim protection from or constrain the use and development of, the radionavigation service operating in accordance with the Radio Regulations.

Reasons: The radionavigation service will continue to be protected.

DRAFT PROPOSALS FOR THE WORK OF THE CONFERENCE

Doc. WAC/094(06.02.02)/1.28

(NTIA Draft Proposal)

Agenda Item 1.28: to permit the use of the band 108-117.975 MHz for the transmission of radionavigation satellite differential correction signals by ICAO standard ground-based systems;

Background Information: An aviation requirement has emerged for the transmission of differential correction (augmentation) data for the Global Navigation Satellite System (GNSS), to be used by aircraft receivers to satisfy the stringent accuracy and integrity requirements for GNSS applications. The new ground-based augmentation systems (GBAS) are planned to operate in the band 108-117.975 MHz (initially, 112-117.975 MHz), which is currently used by Instrument Landing Systems (ILS) and VHF Omni-directional Ranging (VOR) systems.

The band is currently allocated to the aeronautical radionavigation service. It has been argued that GBAS does not fall within the definition of a radionavigation service (i.e., using the property of the propagation characteristics of radio waves) and that an amendment to the allocation would therefore need to be made to allow for the transmission of GNSS augmentation data.

ICAO is developing compatibility and frequency planning criteria between the VOR/ILS, and the new service. GBAS receiver performance will be compatible with FM broadcast services in the band 87.5-108 MHz, and compatibility will be assured without imposing further restrictions on broadcast stations.

Proposal:

108-117.975 MHz			
Allocation to services			
Region 1		Region 2	Region 3
USA/ /12 MOD		AERONAUTICAL RADIONAVIGATION	
		S5.197 ADD <u>S5.XXX</u>	

Reasons: The modification to the table is a consequential change from adding the new footnote.

USA/ /13
ADD

S5.XXX Stations of the aeronautical radionavigation service in the band 108-117.975 MHz may transmit supplementary navigation information for ground-based augmentation systems that conform to recognized international aviation standards, on the condition that no harmful interference is caused to other stations of the aeronautical radionavigation service.

Reasons: A footnote in the Radio Regulations will permit the use of the band 108–117.975 MHz, on a worldwide basis, for the transmission of radionavigation satellite differential correction signals by an international aeronautical standard ground-based system. The use of GBAS will increase the accuracy of satellite radionavigation systems and conform to the requirements for precision landing.

III. Draft Preliminary Views Approved by the National Telecommunications and Information Administration (NTIA)

DRAFT PRELIMINARY VIEWS ON WRC-03

Doc. WAC/095(06.02.02)

(NTIA Draft Preliminary Views)

WRC-2003 Agenda Item 1.5: To consider, in accordance with Resolution 736 (WRC-2000), regulatory provisions and spectrum requirements for new and additional allocations to the mobile, fixed, Earth exploration-satellite and space research services, and to review the status of the radiolocation service in the frequency range 5 150-5 725 MHz with a view to upgrading it, taking into account the results of ITU-R studies

ISSUE: The technical feasibility of accommodating all of the requests for new and additional allocations for the mobile, fixed (Region 3), Earth exploration-satellite (EESS) and space research (SRS) services and also the upgrade of the radiolocation allocation in a limited amount of spectrum.

BACKGROUND: At WRC-2000 there were several proposals for items to be placed on the WRC-03 Agenda dealing with spectrum in the 5 GHz range. These items included new and additional allocations to the mobile (for Radio Local Area Networks (RLAN)), fixed (for Fixed Wireless Access (FWA) in Region 3), Earth exploration-satellite (active) and space research (active) services. Also, an upgrade of the radiolocation allocation in 5 350-5 650 MHz was proposed. These were combined into one agenda item, since the possible allocation to any one of these services would affect the potential allocation of one or more of the other services within this frequency range.

Technology has evolved to the point where wireless networks can be readily and inexpensively deployed to support the businessman or student that is in a campus environment. These devices are becoming widely used in some parts of the world, particularly in North America and Europe. The U.S. domestic allocation table allows for the use of RLAN and FWA devices on an unlicensed, non-protected, non-interference basis in the 5 150-5 350 and 5 725-5 825 MHz bands. These devices have power level and antenna gain restrictions on them to protect the existing allocated services and can neither claim protection from nor cause interference to the existing services in these bands.. Thus, in the United States, an RLAN system meeting the power level and antenna gain restrictions must still remedy any interference that it causes. Studies have shown that the presence of unrestricted outdoor wireless access system transmitters can cause significant interference to spaceborne active sensors that operate in the EECS and SRS. In addition, the ITU-R has concluded that restrictions are also necessary to protect the MSS feederlinks in the 5 150-5 250 MHz band. Lastly, preliminary ITU-R studies of radiolocation sharing with FWA have shown that large separation distances or other mitigation techniques such as receiver standards or error-correction coding are required to prevent mutual interference.

Active microwave sensors on board spacecraft are an increasingly important tool for monitoring the Earth's environment and oceans through the determination of wave height and oceanic currents as well as for radar imaging of the Earth's surface. The need for an additional 110 MHz of spectrum adjacent to the current international allocation from 5 250 – 5 460 MHz is well documented within the ITU-R.

The member space agencies of the Space Frequency Coordination Group (SFCG) have reviewed requirements for the various active sensor measurements, including TOPEX/POSEIDON and JASON. They have recognized the requirement for an extension of the existing allocated primary band (5 250 - 5 460 MHz) for enhanced vertical resolution for spaceborne altimeters and enhanced horizontal resolution for synthetic aperture radars (SARs). Studies and past operational experience has shown that operation in bands allocated to the radiolocation, radionavigation and aeronautical radionavigation services has proven to be feasible in the 5 460 – 5 570 MHz band.

WRC-97 first considered the possibility of an allocation upgrade for the radiolocation service in the 2.9-3.4 GHz and 5.35-5.65 GHz bands by placing this matter on the draft WRC-2001 Agenda. A need for 600 MHz of additional primary radiolocation spectrum for radiolocation systems has been determined. Changes in technology are driving the need for larger bandwidth in order to be able to pick smaller and less reflective radar targets out of background clutter. Experience and studies has shown that the radiolocation service can successfully share the band 5 350-5 650 MHz with radionavigation and EESS/SRS active systems. Studies of sharing between radiolocation and active space borne sensors carried out for CPM-97 by JWP 7-8R support such sharing.

U.S. VIEW: Based upon the long history of successful co-band operations and the JWP 7-8R studies, the United States supports the upgrade of the radiolocation service to primary at 5 350-5 650 MHz. By the same reasoning, the EESS extension in the 5 460-5 570 MHz band is also supported. The United States believes that Wireless Access Systems (including RLANs) can successfully operate without an allocation on a non-protected, non-interference basis in the bands 5 150-5 350 and 5 470-5 725 MHz. If ITU-R studies determine the appropriate controls needed to ensure protection of existing services from single system and aggregate interference, the United States could support a primary allocation recognizing that the protection of existing services must be ensured. The United States does not support an allocation for fixed service (FWA) in the 5 250 - 5 350 MHz band (Region 3) until testing shows mitigation techniques will protect existing services.

- FCC -